ABSTRACT OF THE DISCLOSURE

A hydrogen supply unit which generates electric power by use of a fuel cell and concurrently generates hydrogen, taking as its object the efficient generation of hydrogen from a source gas. The hydrogen supply unit 1 comprises a reformer 2 for reforming natural gas, a fuel cell 3 for generating electric power by use of the reformed gas from the reformer 2, and a purifier 4 for purifying hydrogen from the exhaust gas discharged from the fuel cell 3. The purifier 4 comprises a PEM 9 for conducting purification on the basis of the membrane separation method, and a PSA 11 for conducting purification by use of the pressure swing adsorption method. In the present invention, the reformed gas from the reformer 2 is used, without being subjected to purification, for the electric power generation in the fuel cell 3, and the purifier 4 purifies hydrogen from the exhaust gas discharged from the fuel cell 3. The offgas from the PEM 9 is used in a heater 8, and the offgas from the PSA 11 is used in the fuel cell 3. Consequently, the amount of the hydrogen burnt in the heater 8 is reduced as compared to the prior art, and hence the electric power generation and the hydrogen generation can be performed by using more efficiently the hydrogen contained in the source gas.